

**UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

VTT TECHNICAL RESEARCH CENTRE OF
FINLAND LTD.,

Plaintiff,

v.

TELEDYNE FLIR, LLC, and TELEDYNE
TECHNOLOGIES INCORPORATED,

Defendants.

CASE NO.: _____

DEMAND FOR JURY TRIAL

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff VTT Technical Research Centre of Finland Ltd. files this Complaint and demand for a jury trial seeking relief for patent infringement by Defendants Teledyne FLIR, LLC and Teledyne Technologies Incorporated. Plaintiff states and alleges the following:

THE PARTIES

1. This case is brought by VTT Technical Research Centre of Finland Ltd. (“VTT”), a globally recognized leader in scientific and technological innovation. VTT is a limited company organized and existing under the laws of Finland, with its headquarters in Espoo, Finland. VTT’s principal place of business is located at Tekniikantie 21, Espoo, PL1000, 02044 VTT, Finland.

2. Established in 1942, VTT operates under the mandate of Finland’s Ministry of Employment and the Economy, with a mission to drive scientific and technological advancement for the benefit of industry, society, and global innovation. Over the past eight decades, VTT has played a pivotal role in fostering groundbreaking research and transforming scientific discoveries into real-world applications that address critical challenges across multiple industries.

3. With a legacy of discovery and innovation, VTT serves as a cornerstone of both fundamental and applied research in numerous technical fields. Its research spans a broad spectrum, including information and communication technology, sustainable energy solutions, biotechnology, advanced materials, and automation. These efforts, including the scientific and technical breakthroughs that led to the patent at issue in this case, require significant investment from both public and private sources. VTT conducts approximately \$190 million in research annually, with funding from the Finnish government, the European Union, and private industry partners who recognize VTT's role as a global leader in cutting-edge technology development.

4. VTT's expertise is driven by a world-class team of more than 1,500 scientists, researchers, and engineers. The knowledge generated through VTT's research extends far beyond Finland, benefiting governments, businesses, academic institutions, and consumers around the world. Every year, over 1,100 companies turn to VTT to enhance their products and services through research and development. VTT's discoveries have directly contributed to advancements in healthcare, sustainability, manufacturing, cybersecurity, smart mobility, and telecommunications. To maximize the societal and industrial impact of its research, VTT actively patents and commercializes its inventions, ensuring that breakthrough technologies reach the market while reinvesting proceeds into further innovation. This model allows VTT to sustain and expand its mission of pioneering cutting-edge solutions that address both present and future challenges.

5. As a testament to its leadership in scientific and technological innovation, VTT has been awarded more than 1,400 patents, with over 500 additional patent applications currently under examination in patent offices worldwide. These patents cover a broad range of cutting-edge fields, including artificial intelligence, automation, semiconductor technology, and imaging

and sensing technologies. Among these innovations is the development of bolometers, which play a critical role in thermal imaging, remote sensing, security applications, and astronomical observation. VTT's pioneering research in this field has led to significant advancements in the design and operation of bolometers, enabling improvements in efficiency, sensitivity, and scalability. Through its patents, VTT continues to drive technological progress while ensuring that its inventions are commercialized and utilized to benefit industry and society.

6. On information and belief, Defendant Teledyne FLIR, LLC ("Teledyne FLIR") is a Delaware limited liability company with its principal place of business at 27700 SW Parkway Ave, Wilsonville, Oregon, 97070. Teledyne FLIR is a global supplier of thermal imaging and infrared sensing technologies with a broad product portfolio that includes infrared cameras, sensors, and imaging modules. Among its offerings, Teledyne FLIR designs, manufactures, markets, and sells infrared camera cores and lenses incorporating bolometer-based detectors, including its Boson and Boson+ longwave infrared (LWIR) thermal camera modules. These modules use uncooled microbolometer arrays that detect infrared radiation and generate thermal images. On information and belief, these bolometer arrays incorporate key elements of the technology covered by the '369 patent, including bolometer circuit configurations that amplify detected radiation signals—an innovation at the heart of VTT's patented invention.

7. On information and belief, Defendant Teledyne Technologies Incorporated ("Teledyne Technologies") is a Delaware corporation with its principal place of business at 1049 Camino Dos Rios, Thousand Oaks, California, 91360. Teledyne Technologies specializes in imaging, instrumentation, and defense electronics, supplying advanced sensor and imaging technologies across military, industrial, and commercial sectors. Through its subsidiary, Teledyne FLIR, Teledyne Technologies develops and sells infrared imaging products that rely on

microbolometer technology, including the accused Boson and Boson+ thermal imaging modules. On information and belief, Teledyne Technologies exercises control over Teledyne FLIR's operations, product development, and sales strategy, ensuring that Teledyne FLIR's infringing bolometer-based products are manufactured, marketed, and sold as part of Teledyne Technologies' broader imaging and sensing business.

8. On information and belief, in 2021, Teledyne Technologies acquired FLIR Systems, Inc., renaming it Teledyne FLIR, LLC. This acquisition strategically positioned Teledyne Technologies to expand its infrared imaging capabilities by incorporating Teledyne FLIR's extensive portfolio of microbolometer-based thermal imaging products. As part of this acquisition, Teledyne Technologies gained direct access to Teledyne FLIR's Boson and Boson+ thermal imaging modules, which incorporate uncooled bolometer arrays that employ the innovations claimed in the '369 patent. These products benefit from the patented bolometer configurations that improve sensitivity, signal amplification, and multiplexing efficiency—critical advancements that set VTT's invention apart from prior designs. On information and belief, since the acquisition, Teledyne Technologies and Teledyne FLIR have jointly developed, manufactured, marketed, and sold these infringing infrared imaging products, leveraging VTT's patented technology to enhance their commercial offerings.

9. On information and belief, the Teledyne Defendants ("Teledyne Defendants" or "Teledyne" collectively refers to both Teledyne FLIR and Teledyne Technologies) have long been aware of VTT's pioneering contributions to bolometer technology and have directly benefited from advancements in the field developed by VTT. The Teledyne Defendants have incorporated core aspects of VTT's patented innovations—including bolometer circuit configurations—into their thermal imaging products, without authorization. Despite knowing of

the technical significance and patent protection surrounding VTT's inventions, the Teledyne Defendants have continued to commercialize and profit from infringing products, including the Accused Instrumentalities (defined below), rather than seeking a license from VTT. Their continued exploitation of VTT's bolometer advancements constitutes direct, indirect, and willful infringement of the '369 patent, as detailed in this Complaint.

10. VTT brings this action to protect its intellectual property rights and to secure fair compensation for the unauthorized use of its patented bolometer technology.

THE ASSERTED PATENT

11. On November 22, 2011, United States Patent No. 8,063,369 ("the '369 patent") titled "Bolometer Element, Bolometer Cell, Bolometer Camera and Method" was duly and legally issued by the United States Patent and Trademark Office. The '369 patent stems from Application No. 12/071,058, filed on February 14, 2008. VTT owns the entire right, title, and interest in and to the '369 patent, including the right to sue for and collect past damages. A true and correct copy of the '369 patent is attached to this Complaint as Exhibit A1.

12. Before the inventions disclosed in the '369 patent, bolometer technology faced significant limitations that hindered the performance, efficiency, and scalability of thermal imaging and sensing applications. While these designs were useful in certain applications, they suffered from several key drawbacks, including low signal-to-noise ratios, slow response times, and the need for complex external amplification systems to achieve higher sensitivity.

13. The '369 patent introduced a novel solution that overcame these longstanding technical limitations. The patented design involves a bolometer circuit that includes biasing and power amplification. This is achieved by electrically connecting two bolometers in series, allowing the first bolometer's heating resistance to be biased using a voltage through the heating

resistance of the second bolometer. This innovative configuration enabled power amplification at the detector level, significantly improving the signal-to-noise ratio without the need for complex external amplification circuits. The improved bolometer structure of the '369 patent enabled the development of highly sensitive thermal imaging systems with enhanced detection capabilities.

14. By solving these persistent technical challenges, the '369 patent represented a substantial improvement in bolometer technology. The ability to amplify detected radiation signals directly within the bolometer element itself dramatically improved sensitivity and reliability while reducing system complexity. These advancements made high-performance bolometer arrays more practical and accessible, enabling their widespread adoption across critical industries where thermal sensing and imaging play a vital role.

15. To the extent applicable, VTT has complied with 35 U.S.C. § 287 for the '369 patent.

JURISDICTION AND VENUE

16. This is an action for patent infringement arising under the patent laws of the United States, 35 U.S.C. §§ 101, *et seq.* This Court has original subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

17. This Court has personal jurisdiction over the Teledyne Defendants because they are incorporated in the State of Delaware and therefore reside in this State. Moreover, this Court has personal jurisdiction over the Teledyne Defendants consistent with the Due Process Clause of the United States Constitution and the Delaware Long-Arm Statute because the claims asserted herein arise out of or are related to the Teledyne Defendants' business activities in this State, including: (i) at least a portion of the infringing acts alleged in this Complaint; (ii)

conducting business in Delaware, including the sale, offering for sale, and distribution of the Accused Instrumentalities; and (iii) regularly transacting business, engaging in persistent conduct, and deriving substantial revenue in Delaware from goods and services, including those incorporating the Accused Instrumentalities. 10 Del. C. § 3104.

18. Venue is proper in this District pursuant to at least 28 U.S.C. § 1400 because the Teledyne Defendants are incorporated in the State of Delaware and therefore reside in this State.

BACKGROUND

19. The Teledyne Defendants have long been aware of VTT's innovations in bolometer technology, including the patented inventions of the '369 patent. For example, their awareness is evidenced by their own patent prosecution activities. On March 26, 2020, during the prosecution of Teledyne FLIR's own patent application that resulted in U.S. Patent No. 11,012,647 (the '647 patent), Teledyne FLIR cited VTT's '369 patent in an Information Disclosure Statement (IDS) submitted to the United States Patent and Trademark Office (USPTO). This affirmative disclosure demonstrates that Teledyne FLIR not only knew of the '369 patent but also recognized its technical relevance to Teledyne FLIR's own bolometer-based products—including the very products at issue in this case.

20. Following a technical evaluation of the Teledyne Defendants' thermal imaging products, including their Boson and Boson+ camera modules, VTT determined that these products incorporate bolometer sensing elements that practice the claims of the '369 patent. Accordingly, on June 18, 2024, VTT, through its legal counsel, sent a formal notice letter to the Teledyne Defendants' General Counsel, Melanie S. Cibik, informing them of VTT's patent rights and detailing Teledyne's infringement. The letter included a copy of the '369 patent and a claim chart demonstrating how each element of exemplary patent claims is implemented in

Teledyne's Accused Instrumentalities. Notably, VTT highlighted that Teledyne's own '647 patent—the same patent application where Teledyne had cited the '369 patent—expressly demonstrated the infringing functionality. In particular, Figure 2A of the '647 patent depicts a circuit in which an active bolometer is biased through a conduction path via a second bolometer, amplifying the detected radiation power—the innovation protected by the '369 patent. In good faith, VTT invited the Teledyne Defendants to engage in discussions regarding a potential licensing arrangement, aiming to resolve the matter amicably.

21. On July 26, 2024, the Teledyne Defendants, through their Chief Intellectual Property Counsel, David Zoetewey, responded to VTT's letter. Instead of providing a substantive technical rebuttal, Teledyne summarily denied infringement, offering only a vague assertion that their products did not satisfy all elements of the '369 patent's claims. The response lacked any specific technical analysis and failed to address the claim chart's detailed mappings. However, Teledyne invited VTT to clarify its position, particularly regarding the amplification function described in claim 1.

22. Over the next several months, the parties exchanged letters regarding Teledyne's infringement. The discussions concluded with a December 24, 2024, letter from VTT reiterating its position, underscoring that Teledyne had failed to provide any meaningful distinctions between the circuit in the '647 patent's Figure 2A and the Accused Instrumentalities. VTT also noted that Teledyne's responses had been largely conclusory and evasive, rather than substantive or supported by evidence. In good faith, VTT proposed a final opportunity for licensing discussions to avoid litigation.

23. The Teledyne Defendants never responded. Instead, they ceased all communications while continuing to manufacture, market, and sell their Boson and Boson+

products that incorporate VTT's patented technology—without authorization and without compensation to VTT.

24. At no time have the Teledyne Defendants obtained a license to the '369 patent, either express or implied. Their continued commercialization of bolometer-based thermal imaging products constitutes unauthorized use of VTT's patented technology.

25. Upon information and belief, the Teledyne Defendants have taken no meaningful steps to design around the '369 patent or avoid infringement since becoming aware of it. Instead, they have knowingly and deliberately continued to profit from the patented technology while disregarding VTT's intellectual property rights. Their deliberate inaction, refusal to engage in good-faith discussions, and continued sales of infringing products underscore the willful nature of their misconduct.

COUNT I

(Infringement of the '369 Patent)

26. VTT restates and realleges all the foregoing paragraphs as if fully stated herein.

27. On information and belief, the Teledyne Defendants have directly infringed and continue to directly infringe one or more claims of the '369 patent under 35 U.S.C. § 271(a), either literally or under the doctrine of equivalents, because they have made, used, sold, offered for sale, and/or imported and are currently making, using, selling, offering for sale, and/or importing thermal imaging devices that incorporate bolometer elements configured with a first and second bolometer electrically connected in such a way that the heating resistance of the first bolometer is biased through the heating resistance of the second bolometer to amplify detected radiation power (the “Accused Instrumentalities”). The Accused Instrumentalities include, but

are not limited to, Teledyne's Boson and Boson+ thermal camera modules, as well as any other bolometer-based thermal imaging products that function in a substantially similar manner.

28. Attached to this Complaint as Exhibit A2 is a representative chart that, on information and belief, describes how, as a non-limiting example, the elements of exemplary claim 1 of the '369 patent are met by the Accused Instrumentalities.

29. The Teledyne Defendants' infringement of the '369 patent has also been indirect.

30. On information and belief, the Teledyne Defendants have indirectly infringed and continue to indirectly infringe one or more claims of the '369 patent under 35 U.S.C. § 271(b), because they have induced and continue to induce third parties (including customers, distributors, and end users) to use the Accused Instrumentalities. Such use by third parties constitutes direct infringement of one or more claims of the '369 patent.

31. For example, the Teledyne Defendants have supplied and continue to supply such induced third parties with the Accused Instrumentalities along with website materials, instructions, datasheets, promotional materials and the like that instructed/instruct them how to use the Accused Instrumentalities, with knowledge that usage in accordance with their instructions directly infringed/infringe one or more claims of the '369 patent, or with willful blindness to that fact.¹ On information and belief, the Teledyne Defendants will continue to encourage, aid, or otherwise cause these third parties to, for example, use their Accused Instrumentalities in ways that directly infringe the '369 patent, and the Teledyne Defendants

¹ E.g., <https://www.flir.com/browse/oem-cameras-components-and-lasers/thermal-camera-cores/lwir/>; <https://www.flir.com/products/boson/>; <https://www.flir.com/products/boson-plus/?vertical=lwir&segment=oem>; <https://www.teledyneimaging.com/en/aerospace-and-defense/products/sensors-overview/infrared-microbolometer-vox/>; <https://www.teledynedalsa.com/en/products/imaging/infrared-detectors/microbolometers/>; <https://www.teledyneimaging.com/en/aerospace-and-defense/products/sensors-overview/infrared-hgcdte-mct/hawaii-4rg/>; and <https://medias.yolegroup.com/uploads/2017/09/Sample-FLIR-Boson-%E2%80%93-a-small-innovative-low-power-smart-thermal-camera-core-.pdf>.

have and will continue to encourage these acts with the specific intent to infringe the '369 patent. Further, the Teledyne Defendants provide information and technical support to their customers and other end-users, including website materials, instructions, datasheets, promotional materials and the like encouraging them to purchase and to use the Accused Instrumentalities with knowledge that such use constitutes an act of direct infringement of the '369 patent.

Alternatively, the Teledyne Defendants have acted with willful blindness to these facts. On information and belief, the Teledyne Defendants know that there is a high probability that the use of the Accused Instrumentalities constitutes direct infringement of the '369 patent but took deliberate actions to avoid learning of these facts.

32. On information and belief, the Teledyne Defendants have been aware of the inventions described and claimed in the '369 patent since at least shortly after its issuance. At a minimum, Teledyne FLIR had actual knowledge of the '369 patent no later than March 26, 2020, when it cited the patent in an IDS submitted to the USPTO during the prosecution of its own patent application that resulted in the '647 patent. By citing the '369 patent as prior art, Teledyne FLIR acknowledged its relevance to its own bolometer-based technologies, including those incorporated into its Boson and Boson+ thermal camera modules. This affirmative disclosure demonstrates that Teledyne FLIR recognized the '369 patent as material to its own innovations and relevant to its commercial products. On information and belief, Teledyne Technologies became aware of the '369 patent no later than 2021, when it acquired Teledyne FLIR. On information and belief, and given that intellectual property due diligence is a routine and necessary part of corporate acquisitions, Teledyne Technologies reviewed Teledyne FLIR's relevant patents, applications, and IDS filings—including its prior disclosure of the '369 patent. Thus, at least by 2021, both Teledyne Defendants had actual knowledge of the '369 patent.

Alternatively, to the extent the Teledyne Defendants claim they lacked actual knowledge, their failure to review their own publicly available patent disclosures constitutes willful blindness.

33. The Teledyne Defendants' knowledge of the '369 patent extends beyond mere awareness—their own communications confirm their recognition of its relevance to their products. On June 18, 2024, VTT sent a letter to the Teledyne Defendants, providing formal notice of Teledyne's infringement and enclosing a detailed claim chart mapping elements of the '369 patent to Teledyne's Boson and Boson+ thermal camera modules. Rather than deny knowledge of the patent, the Teledyne Defendants' response implicitly confirmed their awareness by engaging in a discussion of infringement. However, they failed to offer any substantive technical analysis distinguishing their products from the patented technology. Instead, the Teledyne Defendants' response consisted of conclusory assertions of non-infringement, unsupported by any meaningful explanation or evidence. Their inability to articulate a legitimate basis for non-infringement, combined with their prior knowledge of the '369 patent through the USPTO citation and the VTT notice letter, underscores their willful and deliberate disregard of VTT's patent rights.

34. On information and belief, the Teledyne Defendants have known—or have been willfully blind to the fact—that the use of the Accused Instrumentalities by third parties (including customers, distributors, and end users) constitutes acts of direct infringement of the '369 patent. The Teledyne Defendants have been on notice that use of the Accused Instrumentalities directly infringes the '369 patent since at least March 26, 2020, when Teledyne FLIR cited the patent in its IDS filing; in 2021, when Teledyne Technologies acquired Teledyne FLIR and gained access to its intellectual property records; and again on June 18, 2024, when VTT provided a formal infringement notice with a claim chart detailing how Teledyne's Boson

and Boson+ products meet the limitations of the '369 patent. Despite this longstanding awareness, the Teledyne Defendants have continued to market, sell, and encourage third parties—including customers, distributors, and end users—to purchase and use the Accused Instrumentalities in ways that directly infringe the '369 patent. Instead of taking steps to investigate or mitigate their infringement, the Teledyne Defendants have deliberately ignored the issue, failed to provide any substantive rebuttal, and knowingly induced and encouraged others to use the Accused Instrumentalities in a manner that infringes the '369 patent. At a minimum, their refusal to engage in good-faith discussions or identify any technical distinctions between their products and the patented technology demonstrates willful blindness.

35. On information and belief, the Teledyne Defendants' infringement of the '369 patent has been and continues to be willful and merits enhanced damages.

36. For example, the Teledyne Defendants have known of the '369 patent and their infringement of the '369 patent as described herein.

37. On information and belief, since knowing of the '369 patent and their infringement thereof, the Teledyne Defendants have not taken any affirmative steps to avoid infringing the '369 patent.

38. On information and belief, the Teledyne Defendants have made no attempt to design around the claims of the '369 patent.

39. On information and belief, the Teledyne Defendants have no reasonable basis for believing that the claims of the '369 patent are either invalid or not infringed by the Accused Instrumentalities.

40. VTT has been damaged as the result of the Teledyne Defendants' willful infringement.

41. On information and belief, the Teledyne Defendants will continue to infringe one or more claims of the '369 patent unless and until they are enjoined by this Court.

42. On information and belief, the Teledyne Defendants have caused and will continue to cause VTT irreparable injury and damage by infringing the '369 patent. VTT will suffer further irreparable injury and damage, for which it has no adequate remedy at law, unless and until the Teledyne Defendants are enjoined from infringing the claims of the '369 patent.

JURY DEMAND

43. VTT requests a jury trial as to all issues that are triable by a jury in this action.

PRAYER FOR RELIEF

WHEREFORE, VTT respectfully requests that this Court:

- A. Enter judgment that the Teledyne Defendants have infringed one or more of the claims of the '369 patent;
- B. Enter an order permanently enjoining the Teledyne Defendants and their officers, agents, employees, attorneys, and all persons in active concert or participation with any of them, from infringing the '369 patent;
- C. Award VTT all appropriate damages for the infringement of the '369 patent, including pre-judgment and post-judgment interest, costs, and all other relief permitted under 35 U.S.C. § 284;
- D. Award VTT an accounting for acts of infringement not presented at trial, including an award of additional damages for such acts of infringement;
- E. Enter judgment that the Teledyne Defendants' infringement of the '369 patent has been deliberate and willful;

F. Treble the damages awarded to VTT under 35 U.S.C. § 284 by reason of the Teledyne Defendants' willful infringement of one or more claims of the '369 patent;

G. Declare this case to be "exceptional" under 35 U.S.C. § 285 and award VTT its attorneys' fees, expenses, and costs incurred in this action; and

H. Award VTT such other and further relief at law or in equity as the Court deems just and proper.

Dated: March 19, 2025

Respectfully submitted,

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